the transmitted light enters a quarter wave plate to be linearly polarized,

the linearly polarized light then enters a liquid crystal light valve to selectively pass light therethrough,

light passing though the light valve passes through an analyzer and a diffuser to illuminate a color display.

38. A reflective cholesteric liquid crystal color filter manufacturing process comprising:

mixing a cholesteric liquid crystal material subject to polymerization by exposure to a specific frequency ultraviolet light at a specific temperature for a specific time to yield a specific color band of reflection from a pitch gradient in the cholesteric liquid crystal when polymerized,

degassing the mixture at approximately 90° C. in a vacuum,

sandwiching the mixture of cholesteric liquid crystal material between a top substrate and a bottom substrate,

partially masking one of the substrates to block UV light passing therethrough to prevent polymerization of the mixture of cholesteric liquid crystal material in the masked portion,

setting the temperature of the mixture of cholesteric liquid crystal material to a first specific temperature,

exposing the unmasked mixture of cholesteric liquid crystal material to a first UV radiation for a first length of time which will polymerize the mixture of cholesteric liquid crystal material to reflect a first color of light in a first band width,

unmasking the mixture of cholesteric liquid crystal material,

setting the temperature of the mixture of cholesteric liquid crystal material to a second specific temperature,

exposing the unmasked mixture of cholesteric liquid crystal material to a second UV radiation for a second length of time which will polymerize the mixture of cholesteric liquid crystal material to reflect a second color of light in a second band width to form a reflective cholesteric liquid color filter layer.

39. A reflective cholesteric liquid crystal color filter manufacturing process as in claim 38 wherein:

the mixture of cholesteric liquid crystal material being a left handed cholesteric liquid crystal polymer blue polysiloxane, SLM 90032 (Wacker), approximately 84.1% by weight

a low molecular weight nematic liquid crystal, EMI E44 approximately 14.8% by weight,

a left handed chiral dopant EMI S1011, approximately 0.1 % by weight,

a photo initiator Ciba-Geigy IG184 approximately 1%

the first temperature is set to approximately 100° C. and the unmasked mixture of cholesteric liquid crystal material exposed to Ultraviolet light of about 360 nm wavelength at an intensity of about 2.77 mW/cm^2 for about 17 seconds, to make a blue reflecting cholesteric liquid crystal portion,

lower the mixture of cholesteric liquid crystal material to 61° C. for about 5 minutes to control the bandwidth of the green reflecting cholesteric liquid crystal sub-pixel,

the second temperature is set to approximately 61° C. and all of the mixture of cholesteric liquid crystal material exposed to the second UV radiation of about 360 nm wavelength at an intensity of about 1.00 mW/cm^2 for about 150 seconds, to make a green reflecting cholesteric liquid crystal portion,

exposing the layer to a third temperature of about 61° C., for a third time of approximately 60 seconds at the third ultraviolet light intensity at about 20 mW/cm^2.

40. A reflective cholesteric liquid crystal color filter manufacturing process as in claim 39 wherein:

the substrates are mechanically sheared while at 100° C. before the mask is applied.

41. A reflective cholesteric liquid crystal color filter manufacturing process as in claim 39 wherein:

the mask applied has openings for two separate adjacent sub-pixels.

42. A reflective cholesteric liquid crystal color filter manufacturing process as in claim 39 wherein:

the mask applied has openings for one large pixel.

43. A reflective cholesteric liquid crystal color filter manufacturing process as in claim 38 wherein:

the mixture of cholesteric liquid crystal material is a left handed cholesteric liquid crystal polymer blue polysiloxane, Wacker SLM 90032, approximately 79% by weight

a low molecular weight nematic liquid crystal, EMI E44 approximately 20% by weight,

a photo initiator Ciba-Geigy IG184 approximately 1%

the first temperature is set to approximately 58° C. and the unmasked mixture of cholesteric liquid crystal material exposed to Ultraviolet light of about 360 nm wavelength at an intensity of about 1.0 mW/cm^2 for about 77 seconds, to make a red reflecting cholesteric liquid crystal portion,

raise the mixture of cholesteric liquid crystal material to 83° C. for about 5 minutes to control the bandwidth of the red cholesteric liquid crystal polymer,

the second temperature set to approximately 70° C. and all of the mixture of cholesteric liquid crystal material exposed to the second UV radiation of about 360 nm wavelength at an intensity of about 20.00 mW/cm^2 for about 60 seconds, to make a green reflecting cholesteric liquid crystal portion.

44. A reflective cholesteric liquid crystal color filter manufacturing process as in claim 43 wherein:

the substrates are mechanically sheared while at 58° C. before the mask is applied.

45. A reflective cholesteric liquid crystal color filter manufacturing process as in claim 43 wherein: